ROLE OF RESEARCH IN THE MANAGEMENT OF NATURAL RESOURCES IN AREAS ADMINISTERED BY NATIONAL PARK SERVICE IN HAWAII

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Natural resources in areas administered by the National Park Service in Hawaii (Hawaii Volcanoes National Park, Haleakala National Park, City of Refuge National Historical Park, and Puukohola Heiau National Historic Site) are significant elements of endemic ecosystems--many are unique and of international importance and some are endangered. To fulfill a mandate to restore (where feasible) and to perpetuate these insular ecosystems and their constituent components requires effective management. Effective management is dependent upon sound and scientifically sufficient information of these resources.

Contributions to knowledge about the natural resources of Hawaii by noted scientists over the decades have been significant. Yet we realize that so much more data is required to do the job. During this conference you will discuss your research projects that are adding so substantially to the fund of knowledge.

Regional Director Howard Chapman is extremely interested in each of your research endeavors. He recognizes and thanks you for your role in securing the scientific data that provides the sound foundation for making informed resources management decisions and for the development and implementation of effective resources management actions. He extends his appreciation to each of you for your participation in this--the First Conference in Natural Sciences. He sincerely regrets that he is unable to personally meet with you during this research review.

Briefly, I will outline and discuss some of the mechanics and steps involved in the identification, initiation and implementation of research in these areas in Hawaii:

1. Resources Identification and Evaluation. An initial identification and evaluation of the natural resources is a prerequisite to effective management. Past and current research endeavors contribute to this step.

2. Resources Management Objectives. Based upon an identification of the park resources and their significance, the Park Superintendent establishes the basic Resources Management Objectives that guide his actions. Although based generally upon broad Service-wide policies and legislative requirements, his Resources Management Objectives must be Park-specific.

3. Resources Management Problems. With an understanding of the park's resources and the establishment of management objectives, the park manager identifies and recognizes the problems which prevent him from achieving his objectives.

4. Current Management Actions. Actions being taken to solve these problems are identified and evaluated and questioned--are they adequate?

5. Needed Management Action. Management actions required to solve the problems and to achieve the objectives are identified and questioned --why are they not being undertaken? The answers may involve insufficient funds, equipment or personnel. However, many recognized management actions cannot be taken because of a lack of basic scientific knowledge about the resource. This is the step where research is required to provide the factual basis of management decisions and actions.

Material from these steps is formulated and documented into an individual park-specific Resources Management Plan by the Superintendent and his staff.

In this Plan he includes: a description of the park resources; the resources management objectives; the statement of current problems; and description of current and proposed actions required to solve these problems that obstruct the fulfillment of the resources management objectives.

The Resources Management Plan is accompanied by an Environmental Assessment or Environmental Impact Statement that exposes the program to the general public and the scientific community and identifies the various alternative actions and the impacts of each. Public involvement assists the park manager in developing, evaluating, and implementing a program that is scientifically sound and socially acceptable.

A Resources Management Program complements the Resources Management Plan. This program consists of a series of resources management and research action proposals and a projected programming sheet which provides for an orderly scheduling of these activites. Next, the projects enter the programming process for eventual funding when the Park Superintendent submits a form requesting an increase in his park base funding--we call it a Form 10-237--and places the project on his park's priority list where it competes with other park funding demands. These documents are sent to the Regional Office.

One criterion each project must meet is known as "Briggle's Law." In general, it states that only those resources management or research projects that are responsive to a resources management need that has been recognized in an approved Resources Management Plan shall be financed with funds allotted to the National Park Service.

Projects submitted by the Park Superintendents are reviewed and evaluated in the Western Regional Office and ranked on a Region-wide Priority List in competition with all needs of other areas within the Region--and, of course, the availability of funds.

A tentative Regional Priority List is circulated to all field areas. Subsequently, after appropriate revisions based upon field review have been made, the List is approved by the Regional Director and turned over to the Regional Chief Scientist to facilitate.

Research is undertaken in a National Park by one of several means, as follows:

1. Research Scientists. Seven research scientists are located in parks in the Western Region, and two serve on university campuses as Unit Leaders at Cooperative National Park Resources Studies Units. Each works on specific research projects and provides the Superintendent and his staff with professional assistance and advice and research coordination. Research Scientist James K. Baker serves in Hawaii Volcanoes National Park.

2. Cooperative University Units. In the Western Region we enjoy cooperative arrangements with four universities: University of Hawaii, University of Nevada/Las Vegas, University of Arizona, and University of California/Berkeley.

   In Hawaii, we participate with the University of Hawaii, under a Master Memorandum of Understanding dated March 16, 1973, in operation of

the Cooperative National Park Resources Studies Unit. This CPSU operates on a University-wide scope through the Department of Botany on the Manoa Campus. The program consists of two main elements; namely, (1) the Unit Support and Park Assistance Programs and (2) a series of specific research projects. Dr. Clifford Smith, a member of the University faculty, serves as the Unit Director.

3. Contracts. Some research projects are done under contract with educational institutions and other qualified organizations.

4. Cooperative Arrangements. Cooperative research projects are conducted under cooperative arrangements with other Federal and state agencies such as the Geological Survey, the U. S. Fish and Wildlife Service, the U. S. Forest Service, etc.

5. Independent Research. A considerable amount of research is accomplished by researchers that are independently funded from other than National Park Service resources. Such research endeavors are encouraged so long as they do not alter or endanger park resources or cause an adverse impact upon the enjoyment of the park by other visitors. The Service may provide services and facilities, as available and appropriate, to implement these investigations. Much scientific information, useful in the management and interpretation of park resources, is derived from independently-funded research endeavors.

   An independent researcher should contact the Superintendent of the park in which he proposes to undertake research for his advice and assistance.

Before, funds are distributed for a research project on the Regional List, a full-term research proposal is requested. This proposal is reviewed by personnel in the park and in the Regional Office prior to approval by the Regional Chief Scientist. (Instructions and procedures for preparation and submission of proposals may be secured from the Regional Chief Scientist.)

The approved research proposal serves as the basis for a contract (or the Research Work Plan for an individual NPS Research Scientist.)

The contract provides for a specific product or products --usually progress reports and a detailed final research report. (A copy of our reporting requirements may be secured from the Regional Chief Scientist.) These reports supply the park manager with scientific conclusions and recommendations that provide the basis for sound resources management decisions and effective resources management action programs.

Investigators are encouraged to publish the findings of their research, as appropriate. First consideration should be publication in professional journals. The Office of the Chief Scientist, Washington, can provide for page charges and reprint costs. In addition, the National Park Service has several series of scientific publications for which acceptable manuscripts are welcome. (A statement on the Service's format and manuscript requirements and a list of current Service scientific titles are also available.)

Your continued participation in the scientific and resources management endeavors of the Service and your contributions to these efforts of mutual interest and concern are greatly appreciated. Many thanks for sharing your ideas and findings with us.